CLMPTO 08/12/04 JW

Amend Claims 3,5,7-9 14,15, 17, 19,21,25,26,33,34,36

1. A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of the scatternet comprising:
creating a direct radio communications link between the first device and the destination device; and
transmitting the packet via the direct radio communications link.

2. A method as claimed in claim 1, wherein the destination device is joined to the first piconet.

3. (CURRENTLY AMENDED) A method as claimed in claim 1 or 2, wherein the step of creating a direct radio communications link creates a third piconet between the first piconet and the second piconet.

4. (ORIGINAL) A method as claimed in claim 3 wherein the first device operates as Master of the third piconet.

5. (CURRENTLY AMENDED) A method as claimed in claim 1, 2, 3 or 4 wherein the scatternet has a topology defined at creation of the scatternet and creating the direct radio communications link adjusts the topology of the scatternet.

6. (ORIGINAL) A method as claimed in claim 4, wherein the direct radio communications link creates a short-circuit in the network topology.

7. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein a piconet is a star-topology low power radio frequency network comprising a Master as a central node and one or more Slaves as dependent nodes, each of which has a radio communications link to the Master, and a scatternet is a distributed low power radio frequency network comprising a plurality of piconets that are interconnected by radio communication links.

8. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the first device and one destination device are mobile.

8. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, further comprising:
determining whether the creation of a master-to-communicator link between the first device and the destination device is possible.

10. (ORIGINAL) A method as claimed in claim 9, wherein the packet comprises an address of the destination device and the step of determining uses the identity of the destination device.

11. (ORIGINAL) A method as claimed in claim 10, wherein the step of determining comprises determining if the destination device is within radio communication range of the first device.

12. (ORIGINAL) A method as claimed in claim 11, wherein the first device maintains a list of devices within radio communication range.

13. (ORIGINAL) A method as claimed in claim 12, wherein the list comprises, for each device within communication range, an address and a clock offset.

14. (CURRENTLY AMENDED) A method as claimed in ~~claim 12 or 13~~ wherein the list is maintained using the Bluetooth inquiry procedure.

15. (CURRENTLY AMENDED) A method as claimed in ~~claim 12, 13 or 14~~, wherein the step of determining comprises the first device determining whether the destination device is included in the list.

16. (ORIGINAL) A method as claimed in claim 15, wherein the comparison occurs within the Bluetooth Link layer.

17. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the direct radio communications link is temporary.

18. (ORIGINAL) A method as claimed in claim 17, wherein the direct radio communications link is released after a predetermined period of inactivity.

19. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the packet is a routing request.

23. (ORIGINAL) A method of delivering a packet from a first device in a first ad-hoc topology sub-network of a distributed low power radio frequency network to a destination device in a second star-topology sub-network of the distributed network, comprising:
creating a direct low power radio frequency communications link between the first device and the destination device; and
transmitting the packet via the direct low power radio frequency communications link.

24. (CURRENTLY AMENDED) A carrier embodying a computer program which when loaded into a processor creates a method as claimed in ~~any one of claims 1 to 22~~.

25. (ORIGINAL) A device for participating in a first piconet of a scatternet and for delivering a packet to a destination device in a second piconet of the scatternet, comprising:
means for creating a new direct radio communications link to the destination device while maintaining an existing direct radio communications link with the first piconet; and
a radio transmitter for transmitting the packet via the new direct communications link.

26. (ORIGINAL) A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of the scatternet, comprising:
receiving the packet at the first device;
determining whether the creation of a direct radio communications link between the first device and the destination device is possible; and
if it is not possible, forwarding the packet within the scatternet.

27. (ORIGINAL) A method as claimed in claim 26 further comprising adding an address of the first device to the packet before forwarding it.

28. (CURRENTLY AMENDED) A method as claimed in ~~any one of claims 26 to 27~~, wherein the received packet is transferred from a network layer to a link layer and, if possible, the link layer creates a direct radio communications link with the destination device and, if not possible, the link layer forwards the received packet.

29. (CURRENTLY AMENDED) A method as claimed in ~~any one of claims 26 to 28~~, wherein the received packet is buffered in a network layer and a notification comprising the address

of the destination device is transferred to a link layer and, if possible, the link layer creates a direct radio communications link with the destination device and, if not possible, replaces the network layer which transfers the received packet to the link layer for forwarding.

27. (ORIGINAL) A method as claimed in claim 23, wherein the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, creating a direct radio communications link between the first device and the destination device.

28. (ORIGINAL) A method as claimed in claim 23, wherein the received packet is a route request packet and the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, generating a reply packet to a source of the received route request packet.

29. (ORIGINAL) A method of determining a route from a source device in a first piconet of a scatternet to a destination device in a second piconet of that scatternet comprising, before generating a routing request, determining at the source device whether the creation of a direct radio communications link between the source device and the destination device is possible; and if it is not possible, generating, at the source device, a routing request for forwarding within the scatternet.

30. (ORIGINAL) A method as claimed in claim 29, wherein the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, creating a direct radio communications link between the first device and the destination device.

31. (ORIGINAL) A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of that scatternet comprising creating a third piconet between the first piconet and the second piconet, and transmitting the packet via the third piconet.

32. (ORIGINAL) A method as claimed in claim 31, wherein the first device operates as Master of the third piconet.

33. (CURRENTLY AMENDED) A method as claimed in claim 31 or 32, wherein the step of creating a third piconet comprises creating a direct radio communications link between the first device and the destination device.

34. (CURRENTLY AMENDED) A method as claimed in claim 31, ~~32 or 33~~ wherein the scatternet has a topology defined as a scatternet and creating a third piconet adjusts the topology of the scatternet.

35. (ORIGINAL) A method as claimed in claim 31, wherein the third piconet creates a short circuit in the network topology.

36. (CURRENTLY AMENDED) A method as claimed in any one of claims 31 to 35, wherein a piconet is a star-topology low power radio frequency network comprising a Master as a central node and one or more Slaves as dependent nodes, each of which has a radio communications link to the Master, and a scatternet is a distributed low power radio frequency network comprising a plurality of piconets that are interconnected by radio communication links.